



AIR AND NOISE POLLUTION

Air pollution and excessive noise harm our health and our environment. Air pollution mainly stems from industry, transport, energy production and agriculture. The EU air quality strategy aims to achieve full compliance with existing air quality legislation by 2020 and sets long-term objectives for 2030. The Environmental Noise Directive helps to identify noise levels in the EU and to take the necessary measures to reduce them to acceptable levels. Separate legislation regulates air and noise pollution from specific sources.

LEGAL BASIS

Articles 191 to 193 of the Treaty on the Functioning of the European Union (TFEU).

GENERAL BACKGROUND

Air pollution can cause cardiovascular and respiratory diseases as well as cancer, and is the leading environmental cause of premature death in the EU. Certain substances, such as arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons, are human genotoxic carcinogens, and there is no identifiable threshold below which they do not pose a risk. Air pollution also negatively impacts on the quality of water and soil and damages ecosystems through eutrophication (excess nitrogen pollution) and acid rain. Agriculture and forests are therefore affected, as well as material and buildings. Air pollution has many sources, but mainly stems from industry, transport, energy production and agriculture. While air pollution in Europe has generally decreased in recent decades, the Union's long-term objective, namely 'to achieve levels of air quality that do not have significant negative impacts on human health and the environment', is still at risk. Air quality standards are often contravened, especially in urban areas (air pollution 'hotspots') – which is where the majority of Europeans live. The most problematic pollutants today are fine particles, nitrogen dioxide and ground-level ozone.

Environmental noise levels are rising in urban areas, mainly as a result of increasing traffic volumes and intensifying industrial and recreational activities. It is estimated that around 20% of the population of the EU are subjected to noise levels that are considered unacceptable. This can affect quality of life and lead to significant levels of stress, sleep disturbance and adverse health effects, such as cardiovascular problems. Noise also has an impact on wildlife.



ACHIEVEMENTS IN COMBATING AIR POLLUTION

Air quality in Europe has much improved since the EU first started to tackle this issue in the 1970s. Concentrations of substances such as sulphur dioxide (SO₂), carbon monoxide (CO), benzene (C₆H₆) and lead (Pb) have been significantly reduced since then. The EU has three different legal mechanisms to manage air pollution: defining general air quality standards for ambient concentrations of air pollutants; setting national limits on total pollutant emissions; and designing source-specific legislation, e.g. to control industrial emissions or set standards for vehicle emissions, energy efficiency or fuel quality. This legislation is complemented by strategies and measures to promote environmental protection and its integration into other sectors.

A. Ambient air quality

Building on the objectives of the 2005 [Thematic Strategy on Air Pollution](#) (to reduce fine particles by 75%, ground-level ozone by 60%, and the threat to the natural environment from both acidification and eutrophication by 55% – all by 2020 compared with 2000 levels), a revised directive on ambient air quality came into effect in June 2008, merging most of the existing legislation in the field. Only the [fourth 'daughter directive'](#) of the earlier Air Quality Framework Directive is currently still in place, setting target values (less strict than limit values) for arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons.

[Directive 2008/50/EC](#) on ambient air quality aims to reduce air pollution to levels that minimise harmful effects on human health or the environment. To that end, it lays down measures to define and establish ambient air quality objectives (i.e. limits not to be exceeded anywhere in the EU) relating to the main air pollutants (sulphur dioxide, nitrogen dioxide, oxides of nitrogen, (fine) particulate matter, lead, benzene, carbon monoxide and ozone). Member States are required to define zones and agglomerations in order to assess and manage ambient air quality, to monitor long-term trends and to make the information available to the public. Where air quality is good it must be maintained; where limit values are exceeded, action has to be taken.

At the end of 2013, the European Commission launched the Clean Air Programme for Europe, with two key objectives: compliance with existing legislation by 2020 and new air quality objectives for the period up to 2030. The main legislative instrument to achieve these objectives is the revised [National Emission Ceilings Directive](#), which sets stricter national emission ceilings for the five key pollutants – sulphur dioxide, nitrogen oxides, non-methane volatile organic compounds, ammonia and fine particulate matter – in order to reduce their harmful effects on the environment and halve their impacts on health compared with 2005. The directive requires Member States to draw up national air pollution control programmes. It also transposes the 2020 reduction commitments made by the EU and its Member States under the revised Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone to the United Nations Economic Commission for Europe (UNECE) Convention on long-range transboundary air pollution. A new directive to reduce air pollution from [medium combustion plants](#), such as those involved in electricity generation or domestic heating, was also adopted as part of the programme.



B. Road transport

Several directives have been adopted to limit pollution from road transport by setting emission performance standards for different categories of vehicles, such as cars, light commercial vehicles, lorries, buses and motorcycles, and by regulating the quality of fuel. The current Euro 5 and Euro 6 emission standards for cars and light vans set emission limits on a number of air pollutants, in particular nitrogen oxides and particulate matter. Member States are required to refuse the type approval, registration, sale and introduction of vehicles (and replacement pollution control devices) that do not comply with these limits. Since September 2017, a more realistic test cycle has been in use: 'Real Driving Emissions' (RDEs) are now tested for new car models to reflect real driving conditions. Furthermore, there are [rules](#) on in-service conformity (which require vehicles to continue to conform to the standards while in circulation), durability of pollution control devices, on-board diagnostic (OBD) systems, measurement of fuel consumption, and access to vehicle repair and maintenance information for independent operators. Similar rules are in place for [heavy-duty vehicles](#) such as buses and lorries. A new regulation on [type approval and market surveillance of motor vehicles](#), applicable from 1 September 2020, has recently been adopted to increase the quality and independence of technical services and to verify whether vehicles already on the road comply with the requirements.

C. Other transport emissions

To reduce air pollution from ships – said to be responsible for 50 000 premature deaths every year – the EU has set limits on the [sulphur content](#) of marine bunker fuels used in ships operating in European seas. The general sulphur limit will fall from 3.5% to 0.5% by 2020 in line with limits agreed by the International Maritime Organisation. Since 2015, an even stricter standard of 0.1% has applied in certain areas designated 'Sulphur Emission Control Areas' (SECAs), such as the Baltic Sea, the English Channel and the North Sea. Further emission performance standards have been set for [non-road mobile machinery](#), such as excavators, bulldozers and chainsaws, as well as for agricultural and forestry tractors and recreational craft such as sport boats.

D. Emissions from industry

The [Industrial Emissions Directive](#) (IED) covers highly polluting industrial activities that account for a significant share of pollution in Europe. It consolidates and merges all relevant directives (on waste incineration, volatile organic compounds, large combustion plants, integrated pollution prevention and control, etc.) into one coherent legislative instrument, with the aim of facilitating implementation of the legislation and of minimising pollution from various industrial sources. The IED lays down the obligations to be met by all industrial installations, contains a list of measures for the prevention of water, air and soil pollution, and provides a basis for drawing up operating licences or permits for industrial installations. Using an integrated approach, it takes into account the total environmental performance of a plant, including the use of raw materials or energy efficiency. The concept of 'best available techniques' (BATs) plays a central role, as do flexibility, environmental inspections and public participation.



ACHIEVEMENTS REGARDING NOISE POLLUTION

The EU's approach to noise pollution is two-fold, involving: a general framework for the identification of noise pollution levels requiring action at both Member State and EU level; and a series of pieces of legislation on the main sources of noise, such as road, air and rail traffic noise, and noise from equipment for outdoor use.

The [Framework Directive on environmental noise](#) aims to reduce exposure to environmental noise by harmonising noise indicators and assessment methods, gathering noise exposure information in the form of 'noise maps', and making this information available to the public. On this basis, the Member States are required to draw up action plans to address noise problems. Noise maps and action plans need to be reviewed at least every five years.

The regulation on the [sound level of motor vehicles](#) introduces a new test method for measuring noise emissions, lowers the existing noise limit values and includes additional sound emission provisions in the type-approval procedure. Other regulations set noise limits for mopeds and motorcycles. These regulations are complemented by further rules on the testing and limiting of [tyre rolling noise](#) levels and their gradual reduction.

Since June 2016, EU [aviation noise rules](#) in line with the 'balanced approach' created by the International Civil Aviation Organisation (ICAO) have applied to airports with more than 50 000 civil aircraft movements per year. This approach consists of four principal elements designed to identify the most cost-efficient way of tackling aircraft noise at each individual airport: reducing noise levels at the source through the deployment of modern aircraft, managing the land around airports in a sustainable way, adapting operational procedures to reduce the impact of noise on the ground, and, if necessary, introducing operating restrictions such as bans on night flights.

In the context of the [railway interoperability directive](#), a [technical specification for interoperability](#) (TSI) on noise sets maximum levels of noise that new (conventional) railway vehicles can produce. The [noise charge regulation](#) incentivises the retrofitting of freight wagons with low-noise composite brake blocks.

Large industrial and agricultural installations covered by the IED are able to receive permits following the use of best available techniques (BATs) as references. Noise emitted by construction plants (e.g. noise from excavators, loaders, earth-moving machines and tower cranes), as well as from recreational craft or equipment for outdoor use, is also regulated.

ROLE OF THE EUROPEAN PARLIAMENT

Parliament has played a decisive role in the formulation of a progressive environmental policy to combat air and noise pollution.

For instance, MEPs voted to drastically lower the harmful sulphur content of marine fuels from 3.5% to 0.5% by 2020 and successfully fought attempts to postpone this deadline by five years. In line with recommendations from the World Health Organisation, Parliament also called for stricter air quality rules, especially on fine



particles. In the wake of the discovery in the US that the Volkswagen group used test-cheating software to drive down NOX emissions, Parliament set up a temporary committee of inquiry into emission measurements in the automotive sector (EMIS) to investigate the matter. In its final report, it calls for Member States and car manufacturers to be held accountable and urges them to retrofit or withdraw highly polluting cars from the market.

With regard to environmental noise, Parliament has repeatedly stressed the need for further reductions in limit values and for improved measurement procedures. It has called for the establishment of EU values for noise around airports and also for the extension of noise reduction measures to cover military subsonic jet aircraft. Furthermore, it has approved the phasing-in of new, lower noise limits for cars and has successfully campaigned for the introduction of labels to inform consumers about noise levels, similar to those of the existing schemes for fuel efficiency, tyre noise and CO₂ emissions.

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